# TUMBLER-SNAPPER Operation - Photographs

| PHOTOGRAPHS | PHOTOGRAPH DESCRIPTION |
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|  | TS-52-02<br>Camp Desert Rock, NV. May 1, 1952, Marine combat artist, Lieutenant H. Avery Cheoweth, is one of the 2100 Marines who witnessed an atomic explosion during the exercises held at the AEC's Nevada Proving Ground. Sketched impressions of the explosions from the initial blast through to the familiar mushroom cloud soaring skyward over the entrenched Marines. |
|  | TS-52-03<br>Camp Desert Rock, NV. May 1, 1952, Marine combat artist, Lieutenant H. Avery Cheoweth, is one of the 2100 Marines who witnessed an atomic explosion during the exercises held at the AEC's Nevada Proving Ground. Sketched impressions of the explosions from the initial blast through to the familiar mushroom cloud soaring skyward over the entrenched Marines. |
|  | TS-52-04<br>Camp Desert Rock, NV. May 1, 1952, Marine combat artist, Lieutenant H. Avery Cheoweth, is one of the 2100 Marines who witnessed an atomic explosion during the exercises held at the AEC's Nevada Proving Ground. Sketched impressions of the explosions from the initial blast through to the familiar mushroom cloud soaring skyward over the entrenched Marines. |

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|  | TS-52-05<br>Camp Desert Rock, NV. May 1, 1952, Marine combat artist, Lieutenant H. Avery Cheoweth, is one of the 2100 Marines who witnessed an atomic explosion during the exercises held at the AEC's Nevada Proving Ground. Sketched impressions of the explosions from the initial blast through to the familiar mushroom cloud soaring skyward over the entrenched Marines. |
|  | TS-52-06<br>Camp Desert Rock, NV. May 1, 1952, Marine combat artist, Lieutenant H. Avery Cheoweth, is one of the 2100 Marines who witnessed an atomic explosion during the exercises held at the AEC's Nevada Proving Ground. Sketched impressions of the explosions from the initial blast through to the familiar mushroom cloud soaring skyward over the entrenched Marines. |
|  | TS-52-07<br>Camp Desert Rock, NV. May 1, 1952, Marine combat artist, Lieutenant H. Avery Cheoweth, is one of the 2100 Marines who witnessed an atomic explosion during the exercises held at the AEC's Nevada Proving Ground. Sketched impressions of the explosions from the initial blast through to the familiar mushroom cloud soaring skyward over the entrenched Marines. |
|  | TS-52-08<br>Camp Desert Rock, NV. May 1, 1952, Marine combat artist, Lieutenant H. Avery Cheoweth, is one of the 2100 Marines who witnessed an atomic explosion during the exercises held at the AEC's Nevada Proving Ground. Sketched impressions of the explosions from the initial blast through to the familiar mushroom cloud soaring skyward over the entrenched Marines. |

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|  | TS-52-09<br>A USAF aircraft awaits on an air strip at Camp Desert Rock. |
|  | TS-52-12<br>No description. |
|  | TS-52-13<br>After an atomic blast held at Camp Desert Rock, NV., soldiers of the 82nd Airborne Division made a jump near "ground zero." Shown here is Sgt Jerry Pippin wrapping up his chute after landing in the drop zone. |
|  | TS-52-14<br>Cpl Stanley Vandelov, of the 140th Main Wing from Clovis, NM inspects a radio in trench at 900 yd. |

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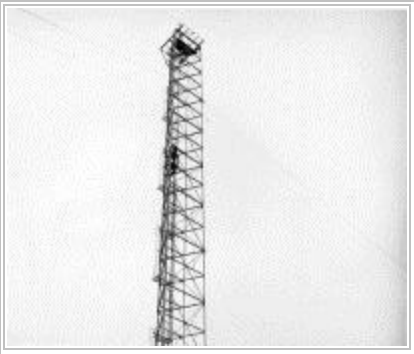
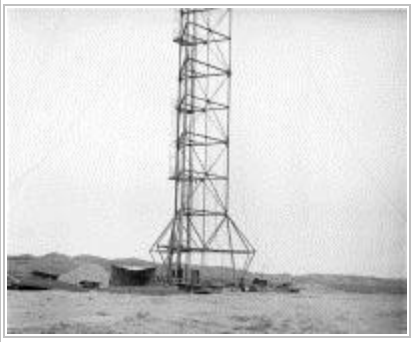
|  | TS-52-15a<br>A view of one of the towers utilized in one of the 1952 Spring Continental Test Series shots. |
|  | TS-52-15b<br>Tower Shots. |
|  | TS-52-16<br>Truck between 400 and 500 yds. From ground zero at atomic test, NV. Proving Grounds, April 23, 1952. |
|  | TS-52-17<br>A view of one of the towers utilized in the 1952 Spring Continental Test Series shots. |

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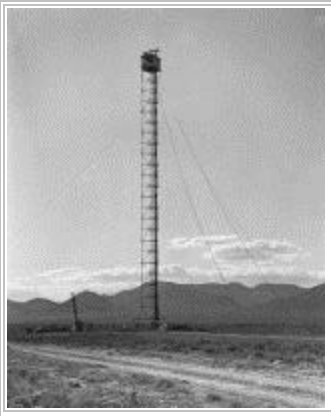
|  | TS-52-18<br>A tower used in one of the shots in the 1952 Tumbler-Snapper Series. |
|  | TS-52-19<br>Newsreel and press correspondents take pictures of a B-29 being decontaminated to remove the radioactivity from it, April 21, 1952. |
|  | TS-52-20<br>In the helicopter H-13D is Brig. General Harry P. Storke and pilot Lieutenant William Tyler. General Storke the Army Exercise Director of the Atomic Tests at Camp Desert Rock, NV., is about to take off on an inspection tour of the Blasted area, April 22, 1952. |
|  | TS-52-21<br>April 14, 1952, to help determine the flash-blindness effects of atomic detonation, volunteer Air Force officers observe the initial, intense light of an atomic burst through specially designed and coated windows of a United States Air Force transport-type aircraft. Their individual reactions are recorded by the flash-blindness equipment shown in the foreground. These flash-blindness experiments are conducted in conjunction with AEC nuclear test operations at the Nevada Proving Ground. |

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|  | TS-52-22<br>Men of the 504th Task Force walk by 105 howitzer. The howitzer is 900 yards from ground zero, April 22, 1952. |
|  | TS-52-23<br>Two congressmen and the Chief of Army Field Forces joined Sixth Army troops in their fox holes to witness the atomic explosion of June 1, 1952. Pictured a few minutes before the detonation are (left to right) Lieutenant General John R. Hodge, Army Field Forces, Representative Errett P. Schrivner of Kansas and Representative Daniel J. Flood of Pennsylvania. |
|  | TS-52-24<br>Army Sargent George Underwood and Lieutenant Fred D. McFadden, radiation officer inspects a dummy at 1700 yards from ground zero at the atomic test, Nevada Proving Ground April 23, 1952. |
|  | TS-52-26<br>Fire caused by atomic blast at NV Proving Grounds, west of ground zero, April 23, 1952. |

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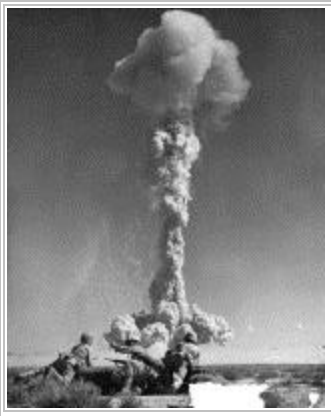
|  | TS-52-27<br>Move Out! Marines prepare to charge an "objective" seconds after an atomic explosion at the Atomic Proving Grounds, Yucca Flat, NV. Twenty-one hundred Marines, commanded by Brigadier General Joseph C. Burger, comprised the largest number of troops to participate in the tests to date. |
|  | TS-52-28<br>Indian Springs AFB, NV, April 20, 1952, after each nuclear detonation at the Nevada Proving Grounds during the AEC's periodic continental tests, United States Air Force planes are checked carefully by airmen of the Air Force Special Weapons Center to determine the amount of radioactivity adhering to aircraft surfaces. The Staff Sargent (left foreground ) is shown checking the engine cowling of a B-29 Superfortress with an Ion Chamber ( a type of Geiger counter), while the airman records radioactive values, it is subjected to decontamination, a high-pressure washing process. |
|  | TS-52-29<br>After observing the initial, intense light of an atomic detonation through the specially designed and coated windows of a United States Air Force transport-type aircraft, volunteer Air Force officers' individual reactions are recorded by the flash blindness equipment shown. |
|  | TS-52-30<br>Major General John S. Mills, USAF, commands the Air Force Special Weapons Center, with headquarters at Kirtland Air Force Base, Albuquerque, New Mexico. The AF Special Weapons Center assists the Atomic Energy Commission in development testing of Atomic weapons, and in the testing of other special weapons in the field of nuclear weapons. General Mills, a native of Appleton, Wisconsin, was graduated from the U.S. Military Academy in June 1928. Serving on typical |

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| | overseas and stateside tours during the 1930's, General Mills then activated the 450th Bombardment Group during World War II and led the organization in combat in the Mediterranean Theatre of Operations. In 1945 he returned to become Deputy Chief, New Developments Division of the War Department's General Staff in Washington. In 1949, he became Assistant to the Deputy of Atomic Energy in Headquarters, USAF, Washington. He was appointed Commanding General of the Special Weapons Command in October 1950. |
|  | TS-52-31<br>This T-33 jet-type aircraft is shown receiving a high-pressure washing by airmen at the Indian Springs Air Force Base, Nevada. After each flight through radioactive cloud formations during periodic Atomic Energy Commission nuclear tests conducted at the Nevada Proving Grounds, certain cloud-sampling aircraft at the Air Force Special Weapons Center are decontaminated (rid of radioactive particles adhering to skin surfaces) with a mixture of "Gunk," a grease solvent, and water, in order to reduce possible hazards of radiation. |
|  | TS-52-32<br>Indian Springs AFB, Nevada, April 20, 1952 -- Airmen of The USAF's Special Weapons Center are shown checking the streamlined, wing-tip filter boxes on T-33 jet-type aircraft with Ion Chamber devices ( a type of Geiger counter) to determine the amounts of radiation absorbed by filters during cloud-sampling flights following each nuclear detonation at the AEC's Nevada Proving Grounds. This procedure, as pictured, has followed each atomic detonation at the AEC's Nevada Proving Grounds. |
|  | TS-52-33<br>Indian Springs AFB, Nevada, April 20, 1952 -- To reduce personnel hazards due to exposure to more than minimal amounts of atomic radiation during AEC nuclear tests at the Nevada Proving Grounds, all United States Air Force aircraft are analyzed for radioactive contamination after flying in the vicinity of each nuclear detonation. When such examinations of aircraft |

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| | reveal an excess of radioactivity, the airplanes are decontaminated by high pressure washing with a solution of "Gunk," a grease solvent, and water. Decontamination of aircraft is a relatively simple wash-down process. |
|  | TS-52-34<br>Lt. Pearle W. Mack Jr., radiation officer, inspects a 2 ½ ton truck at 1709 yards from ground zero. Atomic Test, NV Proving Ground, April 23, 1952. |
|  | TS-52-35<br>Cpl. Sal DiBernardo of the 47th Div., 135th Regt., inspecting a 105mm howitzer at 500 yards from ground zero, April 23, 1952. |
|  | TS-52-36<br>Indian Springs AFB, Nevada, April 20, 1952 -- The USAF weather station shown above is situated near the Control Point at the Atomic Energy Commission's Nevada Proving Grounds. During periodic continental tests weather personnel send many helium-filled Raob (radar-observer) balloons to the upper atmosphere to check on temperatures, dew points, humidity and wind velocities as a continuing procedure for each atomic detonation. The radar tracking instrument, located on top of the test weather station, charts wind velocities and directions to determine post-detonation paths of radioactive clouds and suspended particles. |

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|  | TS-52-37<br>Indian Springs AFB, Nevada, April 20, 1952 -- Exact weather information is a prime necessity during atomic test periods. To obtain information concerning air pressure, temperature and humidity, these captive, helium-filled "Kytoon" balloons, are supplied by the USAF's Air Weather Service during the AEC's periodic atomic tests at the Nevada Proving Grounds. Kytoon balloons are sent aloft before each nuclear test, and are hauled down minutes before the actual detonation occurs. Last minute weather information is thus relayed by remote control to the AEC Test Director at the Proving Grounds Control Point. |
|  | TS-52-38<br>Nevada Proving Grounds -- June 1, 1952. Sixth Army troops from camp Desert Rock attack towards an atomic blast during a maneuver held by the Army at the AEC's Nevada Proving Grounds in conjunction with the Atomic Energy Commission's nuclear test of June 1st. The troops in foxholes 7,000 yards from the blast, swept over their position -- about 20 seconds -- and advanced several thousand yards towards ground zero before being halted by radiological safety rules. |
|  | TS-52-39<br>Brig. General H. P. Storke, commanding general of Camp Desert Rock, NV. and exercise director, addresses a group of correspondents during their tour of the atom bomb site, April 21, 1952. |

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|  | TS-52-40<br>Atomic Bomb Explosion. Immediately after H-hour, 0930 hours, the famous mushroom head cloud rises above the earth at Nevada Proving Grounds, April 22, 1952. |
|  | TS-52-42<br>The burst and cloud of the May 25, 1952 detonation of shot "Fox". |
|  | TS-52-43<br>Burst and cloud photo of the May 25, 1952 shot code-named "Fox" detonated at the AEC's NV Proving Grounds. |
|  | TS-52-45<br>Atomic Test Site, Yucca Flat, Nevada, April 22, 1952 -- Mushroom cloud rises over Yucca Flat, as dust cloud begins to form below. Vapor trail of the U.S. Air Force B-50 Drop plane is seen in the upper left. Above and behind the drop plane are vapor trails of four instrument-bearing aircraft which record scientific data on the atomic detonation. The drop was made from 32,000 feet altitude, and the atomic device exploded at 9:30 am PST at approximately 3,500 feet over Ground Zero. |

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|  | TS-52-46<br>Three successive ice caps developed on the cloud column following the May 25, 1952 detonation, and resulted in an "ice skirt" which is visible slightly above the center of the cloud. |
|  | TS-52-47<br>Some of the newsmen and TV correspondents inspect a helicopter that is used in terrain survey after the atomic tests at Camp Desert Rock, NV, April 21, 1952. |
|  | TS-52-48<br>General Harry P. Storke the Army Exercise Director of the Atomic Tests at Camp Desert Rock, NV, is inspecting from a helicopter, troops that are marching into the blasted area, April 22, 1952. |
|  | TS-52-49<br>Men of the Indian Springs AFB wash down the wing of a radioactive B-29 which has been used in the Atomic bomb tests at Nevada Proving Grounds April 21, 1952. |

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|  | TS-52-50<br>The crowd of news correspondents listen to a talk that is given to them at the control point of the coming atomic blast, April 23, 1952. |
|  | TS-52-51<br>Gaelin Felt, Assistant to Deputy Test Director (seated) and J. C. Clark, Deputy Test Director at the complex instrument panel in the Control room of the Control Point at Yucca Pass, Nevada Proving Ground. The first section of the panel is used only for air bursts, receiving the signals from the bomber indicating release and seconds later records the detonation. The second and third sections contain the frequency control equipment, with voltage recorders connected to various points in the target area -- thus assuring accurate timing -- and recorders for wind velocity and direction. In order to activate test equipment at the exact time, very precise control of the frequency for the timer is required. |
|  | TS-52-52<br>Gaelin Felt, Assistant to Deputy Test Director (seated) and J. C. Clark, Deputy Test Director at the complex instrument panel in the control room of the Control Point at Yucca Pass, Nevada Proving Ground. |
|  | TS-52-53<br>Test Manager's Advisory Panel for Spring Series, 1952, tests at Nevada Proving Ground. L to R, seated, Dr. Alvin C. Graves, Dr. John F. Bugher, Captain Howard L. Andrews, Mr. Carroll L. Tyler, and Dr. Thomas L. Shipman. Standing, Dr. Everett Cox, Captain Harry H. Haight, Commander Russell H. Maynard and Commander Elbert W. Pate. |

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|  | TS-52-54<br>Men looking at tank for damage. Tank was still operational. This was 500 yards from ground zero at atomic tests, NV Proving Grounds, April 23, 1952. |
|  | TS-52-55<br>PFC William G. Milkoski, 505th M. P.'s inspecting machine gun and emplacement at 1700 yards after the blast of the atomic bomb, April 22, 1952. |
|  | TS-52-56<br>Men of the 140th Provisional Maintenance Sqd. March toward ground zero after the blast. They are members of one of the units currently participating in the atomic tests at Camp Desert Rock, NV., April 22, 1952. |
|  | TS-52-57<br>2nd Lt. Alfred L. Gain, uses the Geiger Counter for measuring the contamination of Signal Corps Photographer Cpl. Arthur Cohen. Lt. Gais is with the 6th Army Chemical Biological Radiological School to work with the troops during the atomic tests at Nevada Proving Grounds. |

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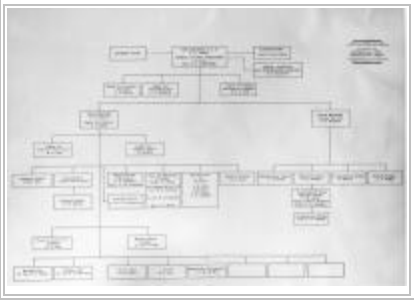
|  | TS-52-58<br>Crouched in their fox holes are from left to right Sfc James J. O'Toole and Sgt. Joseph S. Hales. These men are part of the 167 Inf. Rgt. of the 31st Inf. Div. One of the units currently participating in the atomic tests at camp desert Rock, NV., April 22, 1952. |
|  | TS-52-59<br>Men looking at a jeep that was 1700 yds from ground zero and 2000 yards from blast, atomic tests, NV. Proving Grounds, April 23, 1952. |
|  | TS-52-60<br>2nd Lt. Leonard W. Johnson, at site of atomic blast at NV. Proving Grounds. Sears and Roebuck monitoring vehicle. 200 yds. From ground zero, April 23, 1952. |
|  | TS-52-61<br>105mm howitzer near ground zero at atomic tests, NV Proving Grounds, April 23, 1952. |
|  | TS-52-62<br>Extract of Continental Test Organization Chart. |

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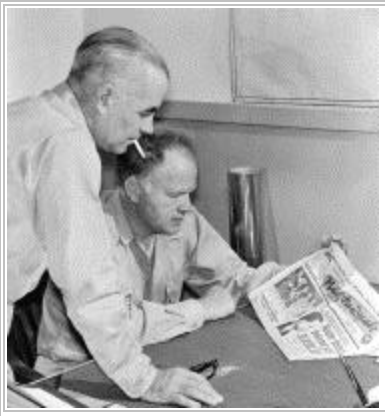
|  | TS-52-63<br>Men observing newspaper. |
|  | TS-52-64<br>The two men shaking hands are Carroll L. Tyler and Alvin C. Graves. |
|  | TS-52-65<br>2nd Lt. Allen Price, leads a platoon of men from B Company, 167 Rgt., 31st Infl Div. towards the blast area while checking the intensity of the rays in the area per hour B use of the Ion Chamber. Lt. Price is with the 6th Army Chemical Biological Radiological School working with the troops during the atomic tests being held at the NV Proving Grounds. |
|  | TS-52-66<br>Pfc. Carl Lacinaki, hands his film badge to Lt. Pearle W. Mack so that it may be checked for radioactivity. Pfc is a member of the 31 inf. Div as an Asst. Gunner of a 75mm recoilless rifle. Lt. Mack, CBR Officer of the 373 Trans. Port Bn. was an equipment maintenance Engineer for the Coca Cola Bottling Co. The film badge is made by the DuPont Co., April 22, 1952. |

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|  | TS-52-67<br>Soldiers of the 31st Division watch mushroom rise during the Atomic Tests being held at the Nevada Proving Grounds, April 22, 1952. |
|  | TS-52-68<br>Soldiers of the 31st Division watch mushroom rise during the Atomic Tests being held at the Nevada Proving Grounds, April 22, 1952. |
|  | TS-52-69<br>Observers at the Atomic Test watch the famous mushroom rise at the Nevada Proving Grounds, April 22, 1952. |
|  | TS-52-70<br>Two men of the 187th Provisional Fighter Bomber Squadron Observation Troops get into their fox holes before Atom blast at the Nevada Proving Grounds. Left to Right is Pfc Kenneth L. Larson, and Cpt Clifford A. Stephens, April 22, 1952. |

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|  | TS-52-71<br>Atomic Bomb Damage -- This aerial view of a tank is shown after the atomic bomb was detonated on May 1, 1952 at the AEC Nevada Proving Ground the Marine Corps Provisional Exercise Unit consisting of 2100 Marines participated in the maneuver. |
|  | TS-52-72<br>Atomic Bomb Damage -- This radar van and trailer are shown after the atomic bomb was detonated on May 1, 1952 at the AEC Nevada Proving Ground. The Marine Corps Provisional Exercise Unit consisting of 2100 Marines participated in the maneuver. |
|  | TS-52-73<br>Nevada Proving Grounds -- June 1, 1952. Sixth Army troops from Camp Desert Rock attack towards an atomic blast during a maneuver held by the Army at the AEC's Nevada Proving Grounds in conjunction with the Atomic Energy Commission's nuclear test of June 1st. The troops in foxholes 7,000 yards from the blast, charged forward in battle formation as soon as the shock wave swept over their position -- about 20 seconds and advanced several thousand yards towards ground zero before being halted by radiological safety rules. |
|  | TS-52-74<br>Men in foxhole. |

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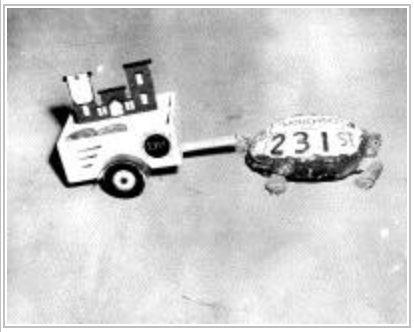
|  | TS-52-75<br>In an effort to rid himself of radioactive dust Lt. Col Robert Cassidy, Department of the Army G-4 section uses a broom in sweeping of Lt. Col Glover Johns after an inspection tour of the blast area at Camp Mercury, NV. These men visited "ground zero" after an atomic blast, one of a series being held at Camp Desert Rock, NV. |
|  | TS-52-76<br>231st Desert Rescue Squad (Turtle--Lightning). |
|  | TS-52-77<br>Nevada Proving Grounds -- June 1, 1952. Sixth Army troops from Camp Desert Rock attack towards an atomic blast during a maneuver held by the Army at the AEC's Nevada Proving Grounds in conjunction with the Atomic Energy Commission's nuclear test of June 1st. The troops in foxholes 7,000 yards from the blast, charged forward in battle formation as soon as the shock wave swept over their position -- about 20 seconds and advanced several thousand yards towards ground zero before being halted by radiological safety rules. |
|  | TS-52-78<br>After an atomic blast at Camp Desert Rock Nevada members of the 82nd Airborne Division parachuted into the area near "ground zero". |

TS-52-79
Brigadier General J. P. Storke observes damage done to vehicle by atomic blast at Nevada Proving Grounds, April 22, 1952.

# 1952 Miscellaneous Photographs

| PHOTOGRAPHS | PHOTOGRAPH DESCRIPTION |
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|  | MISC-52-01<br>Camp Mercury at the Atomic Energy Commission's Nevada Proving Grounds, while it was under construction, June 17, 1952. |
|  | MISC-52-02<br>Twx room at Camp Mercury. |
|  | MISC-52-03<br>Temporary Telephone Switchboard, Camp Mercury. |

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|  | MISC-52-04<br>Interior view of 500 man temporary mess hall, Camp Mercury. |
|  | MISC-52-05<br>Interior of Quonset Laboratory, Camp Mercury. |
|  | MISC-52-06<br>Underground fuel tank, Camp Mercury. |
|  | MISC-52-07<br>Building 8 (Reservoir), 06/17/52, Camp Mercury. |
|  | MISC-52-08<br>Building 14 Underground storage, 06/05/52, Camp Mercury. |

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|  | MISC-52-09<br>Entrance to CP area looking east from CP, 06/17/52, Camp Mercury. |
|  | MISC-52-10<br>Communications equipment at Camp Mercury, 06/13/52. |
|  | MISC-52-11a<br>Interior of Mess Hall, Camp Mercury, 06/05/52. |
|  | MISC-52-11b<br>Interior of Mess Hall, Camp Mercury, 06/05/52. |
|  | MISC-52-12a<br>Camp Mercury - Mess Hall 06/05/52. |


MISC-52-12b
Camp Mercury - Mess Hall 06/05/52.

# IVY Operation Photographs

| PHOTOGRAPHS | PHOTOGRAPH DESCRIPTION |
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|  | IVY-52-01<br>Two minutes after Zero Hour, the cloud rose to 40,000 feet -- the height of 32 Empire State buildings. Ten minutes later, as it neared its maximum, the cloud stem had pushed upward about 25 miles, deep into the stratosphere. The mushroom portion went up to 10 miles, and spread for 100 miles. |
|  | IVY-52-02<br>Operation Ivy, "Mike" shot was fired on Enewetak on October 31, 1952. It was an experimental thermonuclear device. |
|  | IVY-52-03<br>Fall 1952, Overseas Operation Ivy, at a height of approximately 12,000 feet -- 50 miles from the detonation site. Two minutes after Zero Hour, the cloud rose to 40,000 feet -- the height of 32 empire State buildings. Ten minutes later, as it neared its maximum, the cloud stem had pushed upward about 25 miles, deep into the stratosphere. The mushroom portion vent up to 10 miles, and spread for 100 miles. |

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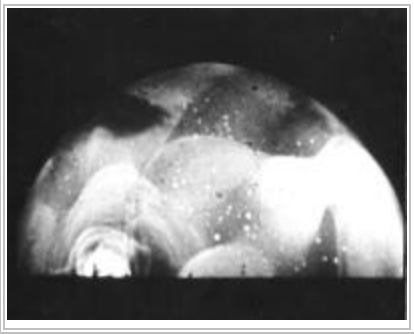
|  | IVY-52-04<br>Fall 1952, Overseas Operation Ivy, at a height of approximately 12,000 feet -- 50 miles from the detonation site. Two minutes after Zero Hour, the cloud rose to 40,000 feet -- the height of 32 empire State buildings. Ten minutes later, as it neared its maximum, the cloud stem had pushed upward about 25 miles, deep into the stratosphere. The mushroom portion vent up to 10 miles, and spread for 100 miles. |
|  | IVY-52-05<br>Operation Ivy, Mike Shot, 10/31/52. |
|  | IVY-52-06<br>Operation Ivy, King Shot, 11/15/52. |
|  | IVY-52-07<br>The gigantic fireball from "Mike" -- the largest ever produced -- measured 3 1/4 miles in diameter. The thermonuclear device, code-named Mike, caused the greatest destructive effects ever noted from a single explosive device. The particular test island of the atoll completely disappeared. |

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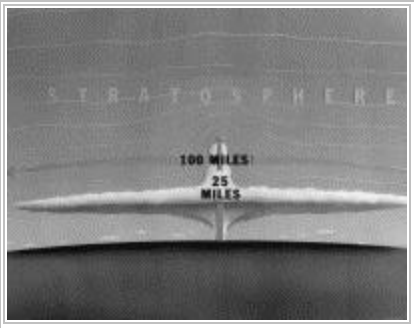
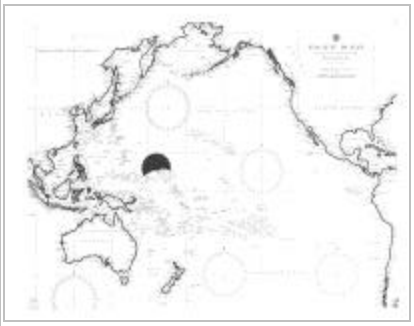
|  | IVY-52-08<br>The giant mushroom cloud from the "Mike" detonation. Nearing its maximum 12 minutes after Zero, the cloud stem pushed upward 25 miles, deep into the stratosphere, while the mushroom portion, 10 miles high, spread for 100 miles along the base of the stratosphere. |
|  | IVY-52-09<br>Map of Pacific Ocean showing Pacific Proving Ground. |
|  | IVY-52-10<br>Operation Ivy's shot King, a weapons related air-drop on Enewetak on 11/15/52. |
|  | xx-11<br>Operation Ivy, "Mike" shot was fired on Enewetak on October 31, 1952. It was an experimental thermonuclear device. |
|  | xx-58<br>Operation Ivy, Mike Shot, 10/31/52. |

xx-59
Operation Ivy, King Shot, 11/15/52.